

**NAVAL WAR COLLEGE
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**UNITED STATES NATIONAL SPACE POLICY AND ITS
IMPLICATIONS ON THE OPERATIONAL COMMANDER**

by

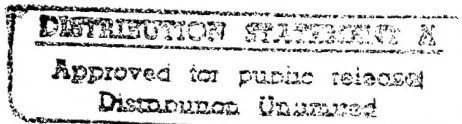
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**The contents of this paper reflect my own personal views and are not
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ABSTRACT

The United States National Space Policy strives for a balanced space program to serve national security, foreign, and economic policies. The goals established in the recently released policy statement have remained constant over the past 30 years and clearly link our space program to national security. Important to the operational commander, this statement for the first time acknowledges the use of satellites for the purpose of surveillance and intelligence collection. In addition, it places greater emphasis on commercial space development for both national security and economic purposes; an emphasis that cannot be ignored by the operational commander.

The less strict security constraints allows the operational commander to incorporate these national space assets into pre-war plans and operational designs. In addition, relaxed security requirements leads to the proliferation of commercial space systems in the areas of imagery, navigation, communication, and weather. This presents the operational commander with the advantages of the accessibility of more data, greater flexibility in fulfilling requirements, and sharing data with international partners. As important as these advantages are, it is critical for operational commanders to understand proliferation of commercial space systems provides adversaries with access to space-based capabilities with inherent military value. To counter this effect the commander must work closely with U.S. Space Command to execute the space control mission. The operational commander must support U.S. Space Command through the destruction, denial, or deception of space capabilities via terrestrial infrastructure. A Joint Force Space Component Commander would facilitate the supporting functions U.S. Space Command provides the operational commander and ensure the commander understands and effectively executes the space control mission in his area of responsibility.

"Access to and use of space is central for preserving peace and protecting U.S. national security as well as civil and commercial interests."

National Space Policy, September 19, 1996

INTRODUCTION

For over 30 years the United States has led the world in the exploration and use of outer space. As technology advances so will our dependence on space to improve everyday life on earth and the militaries used to protect it. Our National Space Policy strives to ensure a balanced space program to serve our goals in national security, foreign policy, and economic growth.¹ The words quoted above, imbedded in the introduction of the policy statement issued by the White House in September of 1996, are the basis for those goals and have important implications on our operational commanders, be they Regional Commanders in Chief or Joint Task Force Commanders. This paper addresses those implications.

The goals established in the policy statement have basically remained constant over the past three decades. The link between our space program and national security has always been clearly articulated in these goals. However, more important to the operational commander, this newly released policy statement acknowledges for the first time use of satellites for the purpose of surveillance and intelligence collection. Further, it places a higher degree of emphasis on commercial space development for both national security and economic purposes; an emphasis that cannot be ignored by the operational commander.

To ensure the reader has a basic understanding of the United States' space policy, I will present a brief overview of the current policy statement and highlight the significant

changes as they pertain to the operational commander. Specifically, I will address declassifying the use of space assets for intelligence collection and the impact it will have on the commander. The loosening of security requirements facilitates increased commercialization of the space systems for both private sector and military applications. I will explain with the advantages and disadvantages to our warfighters with the proliferation of commercial space systems. Finally, I will discuss what the operational commander can do in a space control mission to counter the potential of an enemy to use commercial space capabilities. Included is the consideration of appointing a Joint Force Space Component Commander for the centralized planning and coordination for force allocation and tasking to enhance unity of effort.

OVERVIEW OF THE UNITED STATES NATIONAL SPACE POLICY

To establish a common frame of reference it is essential to provide a brief overview of our current United States National Space Policy. An understanding of the policy goals will give insight into the implications this policy has on our Regional Commanders in Chiefs (CINCs) - those who are charged with the war fighting responsibility of this nation. The underlying principle of the U.S. National Space Policy is to ensure the continued exploration and use of outer space for peaceful purposes.² To implement the policy five goals are established. Briefly they are to (no order of priority is established):

- a) Strengthen and maintain the national security of the United States;

- b) Promote international cooperation to further the U.S. domestic, national security, and foreign policies;
- c) Enhance the economic competitiveness and scientific and technical capabilities of the United States;
- d) Encourage State, local, and private sector investment in, and use of space technologies;
- e) Enhance knowledge of the Earth, the Solar System, and the Universe through human and robotic exploration.³

The first two goals listed have direct implications to military commanders and the remaining three indirect implications through economic and foreign policy ties. These goals commit the United States to the use of space for peaceful purposes. However, “peaceful purposes” allow defense and intelligence related activities in pursuit of national security, an assertion clearly allowed under Article 51, The Right of Self Defense, of the United Nations Charter.⁴ Further, the United States considers the space systems of any nation to be their national property with the right of passage through and operations in space without interference. Much like the principle of free passage through the open seas, the purposeful interference with space systems is viewed as an infringement on sovereign rights.⁵

On the surface the principle and goals of the U.S. National Space Policy issued September 19, 1996 hasn’t changed from previous policy statements. However, there are two subtle, but fundamental changes in the current space policy that need to be highlighted. First, the current space policy for the first time publicly acknowledges the United States uses satellites for reconnaissance and intelligence collection. Secondly, the current policy

increases the emphasis on the development and use of commercial space systems to not only further economic policies, but also national security policies. Both of these changes will have profound impact on the warfighting CINCs.

IMPACT OF ACKNOWLEDGING USE OF SPACE ASSETS FOR INTELLIGENCE COLLECTION

Space policy decisions in the 1960's focused our efforts on providing a military space program to support strategic deterrence and an intelligence space program that provided comprehensive surveillance of areas of the world closed to normal observation. These programs provided strategic indications and warning to the National Command Authorities.⁶ Protection against Soviet knowledge of the character of U.S. military and intelligence space efforts resulted in a highly classified, compartmented security system.

With the end of the Cold War, the need for such a highly classified security system hindered the ability these national assets have on achieving objectives beyond strategic warning and indications. The Gulf War demonstrated this fact. Communication, weather, navigation, and warning systems that were conceived, built, and deployed for strategic deterrence (or for global nuclear war should deterrence fail) were pressed into service in the Persian Gulf theater of operations to support the force buildup and the consecutive air and ground operation. The ultimate purpose was to achieve U.S. and allied strategic and operational objectives through joint effort, while minimizing cost and risk.⁷ However, cumbersome security procedures and narrow vision use of space assets hindered the ability of

the theater commander to receive space-based data in a timely manner. For example, the Defense Support Program (DSP) satellite, a “cold war sentry” for detecting Intercontinental Ballistic Missiles from Russia was called upon to detect Iraqi Scud missile launches.⁸ In what could be the first space “operational movement”⁹ the DSP satellite had to be correctly positioned to provide the required area of operations coverage. Then, a unique command, control, and communication network had to be improvised to get this kind of warning data from the North American Defense Command into the Kuwait Theater of Operations.¹⁰ It took time to refine and mature the process and procedures. However, this satellite detected Scud missile launches giving authorities in Sudia Arabia and Israel warning of impending attack. Coupled with the Patriot missile, the DSP satellite was one of space’s greatest contributions to the Persian Gulf War by compelling Israel not to directly respond with force to Iraq’s attempt to draw them into the war and thereby protecting the assemblage of unlikely Western and Middle Eastern allies.¹¹

With the current trend of down-grading security classifications associated with national space assets, operational commanders can replace ad hoc networks with pre-war plans and operational designs. This will contribute to greater efficiencies and broaden the utility of certain space systems.¹² In addition, many of the technical capabilities subject to security protection have proliferated despite their being subject to classification.¹³

In addition to facilitating the planned use of space assets in operational designs, the relaxing of security requirements on military and intelligence space programs led to the proliferation of commercial space systems. Reduced security constraints enables industry to easily transfer technology and experience to other government or private sector application,

increases the data available to support public applications, and strengthens the competitiveness of the U.S. private sector in the international market place.¹⁴ This is in direct support of the second and third space policy goals listed above and will additionally affect operational commanders.

OPERATIONAL IMPACT OF COMMERCIALIZATION OF SPACE SYSTEMS

The emergence of the global market place is accelerating the commercial development of space and blurring the distinction between the realms of civil and military space.¹⁵ This has both positive and negative effects on operational commanders. The biggest advantage is the increased availability of space assets and the data products derived from them. Navigation, communication, weather, and imagery data are all commercially available on the open market. Over the next five years, half of the 1000 scheduled satellites launches will be small low-earth-orbit commercial communication satellites offering voice, data, messaging, and position information.¹⁶ Three U.S. firms have received licensing to launch private high resolution imaging satellite systems, and to market access to the systems or their imagery products to the international community.¹⁷

The availability of these commercial products means more data accessible by the theater commander. Since the current military space data is provided by systems not under combatant command of the theater CINC, but provided by a supporting CINC (United States Space Command), the commercial data can fill gaps in coverage if U.S. military assets are tasked to support other theaters of operations, national strategic objectives, or cannot provide

sufficient coverage due to orbit parameters and limits. Further, unclassified commercially available imagery data offers greater flexibility and permits sharing data with international partners in both war and operations other than war. Forces in the field do not necessarily need the sharpest, most detailed imagery available as characteristic of our national assets. Commercial imagery gives the commander an option of maps and data needed to meet mission requirements quickly.¹⁸ This was demonstrated in June 1994 when crews flying into Sarajevo, Bosnia-Herzegovina were provided with commercial imagery from a French satellite.¹⁹

As much of an advantage commercial space systems are to our operational commanders, they are also a disadvantage. It is critically important for our commanders to understand that the availability of commercial space systems provides potential adversaries with access to space-based capabilities with inherent military value in the areas of imagery, navigation, communication, and weather.²⁰ For nations or terrorist groups who have limited or no space assets, but do have financial backing, these commercial systems will be tremendous force multipliers.

High resolution imagery (ten meters or better) is already available on the open market. The existing market provides imagery products suitable for map production, digital terrain mapping, military planning, and fixed target analysis.²¹ Further, adversarial access to overhead imagery provides intelligence on lines of operation, installations, deployments and staging areas, and attempts of deception and concealment. This capability reduces the United State's ability to achieve operational or tactical surprise. For example, the grand maneuver

carried out by the coalition forces in the Gulf War to out flank and surprise Iraqi defensive positions would have failed had Iraq possessed timely data from imagery satellites.²²

In the area of navigation, the proliferation of commercially available Global Positioning System (GPS), Russian GLONASS, and developing regional systems provide adversaries with precise positioning and timing aids. This benefits their ability to maneuver, mass and synchronize. Commercially available technology also allows for the removal of inaccuracies inherent in the commercial forms of receivers to protect military accuracy. Coupling receivers of this type with crude ballistic missiles could provide adversaries with rudimentary precision guided munitions. Imagine the military and political impact such a weapon would have if it were targeted and hit an U.S. aircraft carrier.

The largest commercial market is in satellite communication. Adversaries who exploit this technology increase their command and control of their forces. Secure voice and data communication are provided by commercially available satellite communication transceivers and encryption devices. These small and simple to use devices aid the enemy in unity of command, coordination, movement of reinforcements, and directing the fight against U.S. forces.²³

As innocent as it may seem, even commercially available weather data derived from space-based assets provides potential adversaries with increased military capability. Accurate weather forecasting exploits limitations on enemy weapon systems. Accurately predicting cloud cover is effective in concealing forces from overhead observation, thereby aiding in operational or tactical surprise.²⁴

COUNTERING COMMERCIALIZATION AND THE OPERATIONAL COMMANDER

During conflicts the U.S. Space Command is assigned the war fighting responsibility of space control operations to ensure freedom of action in space for the United States and its allies while denying adversaries such freedom of action. Space control consists of systems and operations designed for protection of our space systems, including terrestrial elements, and the necessary supporting surveillance. Space control is accomplished via a wide range of measures including diplomatic, down-link denial, to destruction of enemy space systems.²⁵ Today the United States has no such weapon capability against satellites, limiting counterspace operations to attacks against terrestrial infrastructure. Adding the complexity of the proliferation of commercial systems from multiple sources (both foreign and domestic), the range of options for the theater commander and national decision makers is limited.²⁶

Even though U.S. Space Command has the responsibility of space control and supports the theater commander by providing information on capabilities of enemy space systems through its surveillance mission, it is incumbent upon the operational commander to take an active role in space control. The commander must know when an adversary's space systems, either of indigenous or commercially derived, threaten his operations and be able to decide on appropriate action.²⁷ In essence, in this situation the theater CINC becomes the "supporting commander" to U.S. Space Command for the mission of space control. The destruction of Iraqi satellite ground communication stations is an example of this form of space control.²⁸

Along with destruction, denial and deception are the main military methods to negate space systems²⁹. To apply these methods effectively the commander must understand the potential of our adversaries to exploit commercial or military space technology, their means of access, and the control nodes impacting this potential. Political and economic factors may limit the commander's ability to counter commercial space systems via denial and deception rather than destruction.³⁰ This is especially true as you move from major regional conflicts to operations other than war.

The operational commander may have to resign to the fact he may not be able to counter an enemy space surveillance capability. Therefore, friendly operations will be observed from space by the enemy. In this case plans can be developed to exploit gaps in satellite coverage to seize the initiative. Further, the commander can take advantage of what the enemy sees by incorporating this into his deception plan and lure the enemy away from a decisive point. In addition, an enemy observing force buildup may be all that is needed to defuse a situation.

Organizationally to carry out this mission of space control the operational commander must coordinate closely with the CINC United States Space Command. For example, many space assets can support more than one commander. Further, one operational commander may have a requirement to negate an enemy space asset while another commander may be embarked on deceiving that same enemy asset.³¹ Because of this dilemma, and the fact space assets are critically important intelligence backbones, communication hubs, and force multipliers for both friendly and enemy forces, space control must be centralized³². Therefore, a theater "Joint Force Space Component Commander" similar to the Joint Force

Air Component Commander maybe necessary to exercise this control. By close and careful coordination in the space arena on a global scale the "JFSCC" could facilitate the supporting functions U.S. Space Command provides the regional CINCs. Additionally, the JFSCC could ensure the theater commander understands and effectively executes the mission of space control in their area of operations.

The primary purpose for a JFSCC would be to provide unity of effort for employing not only friendly military and commercial space forces, but also employing air, land and sea forces to counter enemy space capabilities for the benefit of the joint force as a whole.³³ Based on the Joint Force Commanders guidance, the JFSCC would be responsible for the planning, and coordination for the allocation and tasking forces in support of space control. This would place the JFSCC in a "supported commander" role for space control operations and would provide general direction for defenses, deception efforts, and designate targets or objectives for other components in support of the overall campaign.³⁴

Some would argue this JFSCC role should be apart of the JFACC's responsibility. However, I believe because of the unique complexities presented in the space realm and the close ties between military and commercial capabilities, the Joint Forces Commander should consider assigning this role to a separate individual. A parallel logical thought pattern exists today in the assignment of the JFACC in a maritime environment. In this case normally the Joint Force Commander will designate a naval commander as the JFACC. However, this individual would not also serve as the commander of the naval forces.³⁵ Separating the functions enhances the unity of effort. This separation of functions is especially important

until the Air Force completes its transition from an air force to a space force and should not be ignored by the Joint Force Commander.

CONCLUSION

I began this paper with an overview of the newly released National Space Policy. The goals established in this White House statement clearly link national security, economic, and foreign policies with respect to our space activities. As constant as these goals have been over the past three decades, so too has the direct tie to the military. However, two subtle, yet far reaching changes in the policy will impact our warfighting commanders. First, loosening of security requirements around some of our space assets through the public acknowledgment of the use of space-borne intelligence assets, and second, the emphasis on commercialization of space activities.

The Gulf War demonstrated the use of Cold War strategic warning and indication space assets were instrumental in achieving theater objectives. However, security constraints hindered command and control procedures and the dissemination of data to coalition partners. The less strict security constraints allows the operational commander to replace ad hoc networks with pre-war plans and operational designs that incorporate these national assets.

In addition to facilitating the planned use of space assets, relaxed security requirements on military and intelligence space programs led to the proliferation of commercial space systems. The transfer of personnel and technology between government

and private sectors is much easier, increasing the data available to support public application, and strengthening the competitiveness of the U.S. private sector in the international market place. The proliferation of commercial systems presents the operational commander with the advantage of having more data accessible to him, filling gaps in coverage if U.S. military assets are unable to support his requirements. Further, commercially available data offers the commander greater flexibility and permits the sharing of data with international partners. This is particularly helpful in operations other than war.

It is critical for operational commanders to understand proliferation of commercial space systems provides adversaries with access to space-based capabilities with inherent military value. It is a safe assumption that state and non-state actors not aligned with the United States will incorporate commercially available imagery, navigation, communication, and weather data into military capability. To counter this effect the commander must work closely with U. S. Space Command to execute the space control mission. This means the operational commander must support U.S. Space Command through the destruction, denial or deception of space capabilities via terrestrial infrastructure. The proliferation of commercial space systems further complicates the space control mission.

Finally, I recommend the operational commander consider assigning an individual as a Joint Force Space Component Commander for the centralized control and coordination. The JFSCC would facilitate the supporting functions U.S. Space Command provides the CINC or JTF and would ensure the operational commander understands and effectively executes the mission of space control in their area of operations. This close and careful coordination in the global space arena will allow a greater unity of effort for the joint force as

a whole. The Gulf War was characterized as the first space war; however, the advantages space assets give us may not be inherent in the next conflict.³⁶ The two subtle changes I identified in our National Space Policy obligate our operational commanders to begin incorporating not only military and commercial space capabilities into operational designs, but also space control.

¹ National Space Policy, National Science and Technology Council, The White House, September 19, 1996, P1

² Ibid.

³ Ibid.

⁴ United Nations Charter, 26 June 1945, Reprinted from AFP 110-20, 27 July 1981, P5-8.

⁵ National Space Policy, P2.

⁶ A Post Cold War Assessment of U.S. Space Policy, Vice President's Space Policy Advisory Board, December 1992, P4.

⁷ Steven J. Bruger, "Not Ready for the First Space War: What About the Second?" Naval War College Review, Winter 1995, P75.

⁸ Ibid., P78.

⁹ Elements of Operational Warfare, The Joint Military Operation Department, Unpublished paper, August 1996, P13.

¹⁰ Bruger, P78.

¹¹ Ibid., P79.

¹² Post Cold War Assessment of U.S. Space Policy, P23.

¹³ Ibid.

¹⁴ Ibid., P25.

¹⁵ Thomas E. Nosenzo, "You Can't Spell Space Control 'ASAT' Anymore," Unpublished Research Paper, Naval War College, Newport RI, 6 March 1996, P2.

¹⁶ Ibid., P3.

¹⁷ Marco A. Caceres, "Space Market Shifts to Private Sector," Aviation Week & Space Technology, January 8, 1996, P111.

¹⁸ Robert K. Ackerman, "Air Force Planners Exploit Commercial Space Imagery," Signal, June 1995, P17.

¹⁹ Ibid.

²⁰ Charles A. Horner, "Space Systems Pivotal to Modern Warfare," Defense 94, Issue Four, P29.

²¹ Nosenzo, P7.

²² Thomas J. Mahnken, "Why Third World Space Systems Matter," Orbis, Fall 1991, P577.

²³ Nosenzo, P9.

²⁴ Ibid.

²⁵ Horner, P29.

²⁶ Dale R. Hammon and Walter G Green III, "Space and Power Projection," Military Review, November, 1994, P66.

²⁷ Ibid.

²⁸ Horner, P29.

²⁹ Hammon and Green, P66.

³⁰ Nosenzo, P11.

³¹ Bruger, P81.

³² Wulf von Kries, "European Cooperation in Military Space," Space Policy, May 1995, P103.

³³ JFACC Primer, Deputy Chief of Staff, Plans and Operations, Headquarters, United States Air Force, February 1994, P11.

³⁴ Ibid., P15.

³⁵ Ibid., P12.

³⁶ Bruger, P73.

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